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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/707,283

12/03/2003

Steven H. Voldman

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MCGUIRE WOODS LLP  
1750 TYSONS BLVD.  
SUITE 1800  
MCLEAN, VA 22102-4215

EXAMINER

VORTMAN, ANATOLY

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/707,283	<b>Applicant(s)</b> VOLDMAN, STEVEN H.	
	<b>Examiner</b> Anatoly Vortman	<b>Art Unit</b> 2835	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 November 2005 (Election & Amendment).
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-17 and 26 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-17 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/03,3/04,11/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restriction And Amendment*

1. Claims 1-17 and 26 have been elected without traverse in the reply filed on 11/28/05. Non-elected claims 18-25 and elected claim 2 have been cancelled by the amendment filed concurrently with said reply on 11/28/05. Further, claims 1, 3, 5-7, 9, and 11-14 have been amended and new claim 26 has been added. Thus, claims 1, 3-17, and 26 are active in the instant application. The Office action follows:

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 3-5, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claim 3 recites “a resistance”. Since “resistance” has not been positively set forth earlier in the claims, it is not clear what resistance (i.e. electrical, mechanical, etc.) and of which element the Applicant is referring to. Clarification is required in order to provide proper antecedent basis for the “resistance”. For examination purposes the electrical resistance of the entire fuse assembly is assumed.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3-17, and 26, are rejected under 35 U.S.C. 102(e) as being anticipated by US/6,710,699 to Kaltenborn et al., (Kaltenborn).

Regarding claims 1, 7, and 14, Kaltenborn disclosed (Fig. 4, 6) an electronic fuse, comprising: an insulating polysilicon (column 5, lines 48+) film (layer) (5); a conductive film (6) deposited on top surface of said insulating film (layer) (5) forming at least two (i.e. a plurality of) separate conductive regions (7) partially covering the insulating film (layer) (5); and, single-type non-conductive regions on the insulating film (layer) (5) separating and extending to inner edges of the at least two adjacent conductive regions (7).

Regarding claim 26, Kaltenborn disclosed (Fig. 4, 6) an electronic fuse, comprising: an insulating film (5); multiple conductive strips (7) covering the insulating film (5); multiple non-conductive regions on the insulating film (5) separating the multiple conductive strips (7), a first end of each conductive strip (7) is in electrical communication with a first fuse lead (8) and a second end of each electrical strip (7) is in electrical communication with a second fuse lead (8); and each conductive strip (7) of the multiple conductive strips (7) is in electrical communication

with each other conductive strip (7) through at least the first fuse lead (8) or the second fuse lead (8).

Regarding claims 3-5, as best understood, an electrical resistance of the fuse of Kaltenborn will inherently increase in substantially uniform prescribed amount in proportion to a number of blown conductive regions (since conductive regions are identical, the blowing of each of said regions will increase the resistance in substantially uniform amount).

Regarding claim 6, Kaltenborn disclosed (Fig. 4) that said conductive regions (7) are conductive strips which are substantially parallel to each other and to the non-conductive regions.

Regarding claim 8, Kaltenborn disclosed (Fig. 4, 6) that said non-conductive regions comprise gas (i.e. air, which will inherently fill, at least partially, the regions between said conductive strips (7)).

Regarding claim 9, Kaltenborn disclosed (Fig. 4) a first and a second fuse leads (8) disposed on insulating film (5) in electrical communication with the at least two conductive regions (7).

Regarding claim 10, Kaltenborn disclosed (Fig. 4, 6) two electrical contacts (2, 3) in electrical communication with fuse leads (8).

Regarding claims 11 and 12, Kaltenborn disclosed (Fig. 4, 6) that the at least two conductive regions (7) are multiple conductive regions (7) defined as conductive strips disposed on the insulating film (layer) (5) with the at least one non-conductive region being multiple non-conductive regions between each of the multiple conductive strips (7), wherein a first end of each conductive strip (7) is in electrical communication with a first fuse lead (8) and a second end of

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each electrical strip (7) is in electrical communication with a second fuse lead (8), wherein said conductive strips (7) are in electrical communication with each other through said fuse leads (8).

Regarding claims 13 and 15, Kaltenborn disclosed that said insulating film (layer) (5) comprises polysilicone (column 5, lines 48+) and said conductive regions (7) comprise metal (column 4, lines 40+).

Regarding claim 16, Kaltenborn disclosed (Fig. 4) that said conductive regions (7) alternate positions with said non-conductive regions.

Regarding claim 17, the non-conductive regions will inherently limit the current flow through the fuse of Kaltenborn.

6. Alternatively, claims 1, 3-12, and 26, are rejected under 35 U.S.C. 102(b) as being anticipated by US/4,376,927 to McGalliard.

Regarding claims 1 and 7, McGalliard disclosed (Fig. 4a) an electronic fuse, comprising: an insulating film (52); a conductive film (50) deposited on top surface of said insulating layer (52) forming at least two (i.e. a plurality of) separate conductive regions (50) partially covering the insulating film (52); and, single-type non-conductive regions on the insulating film (52) separating and extending to inner edges of the at least two adjacent conductive regions (50).

Regarding claim 26, McGalliard disclosed (Fig. 4a) an electronic fuse, comprising: an insulating film (52); multiple conductive strips (50) covering the insulating film (52); multiple non-conductive regions on the insulating film (52) separating the multiple conductive strips (50), a first end of each conductive strip (50) is in electrical communication with a first fuse lead (60) and a second end of each electrical strip (50) is in electrical communication with a second fuse

lead (58); and each conductive strip (50) of the multiple conductive strips (50) is in electrical communication with each other conductive strip (50) through at least the first fuse lead (60).

Regarding claims 3-5, as best understood, an electrical resistance of the fuse of McGalliard will inherently increase in substantially uniform prescribed amount in proportion to a number of blown conductive regions (since conductive regions are identical, the blowing of each of said regions will increase the resistance in substantially uniform amount).

Regarding claim 6, McGalliard disclosed (Fig. 4a) that said conductive regions (50) are conductive strips which are substantially parallel to each other and to the non-conductive regions.

Regarding claim 8, McGalliard disclosed (Fig. 4a) that said non-conductive regions comprise gas (i.e. air, which will inherently fill, at least partially, the regions between said conductive strips (50)).

Regarding claim 9, McGalliard disclosed (Fig. 4a) a first and a second fuse leads (60, 58) disposed on insulating film (52) in electrical communication with the at least two conductive regions (50).

Regarding claim 10, two electrical contacts (which accept the fuse) will inherently electrically communicate with fuse leads (58, 60) upon insertion of the fuse of McGalliard in electrical circuit to be protected.

Regarding claims 11 and 12, McGalliard disclosed (Fig. 4a) the at least two conductive regions (50) are multiple conductive regions (50) defined as conductive strips disposed on the insulating film (52) with the at least one non-conductive region being multiple non-conductive regions between each of the multiple conductive strips (50), wherein a first end of each



conductive strip (50) is in electrical communication with a first fuse lead (60) and a second end of each electrical strip (50) is in electrical communication with a second fuse lead (58), wherein said conductive strips (50) are in electrical communication with each other through at least said first fuse lead (60).

7. Yet, alternatively, claims 1, 3-12, and 26, are rejected under 35 U.S.C. 102(b) as being clearly anticipated by US/5,479,147 to Montgomery.

Regarding claims 1, 3-12, and 26, Montgomery disclosed (Fig. 2A-2D) a fuse structure as recited in the claims, including a plurality of parallel conductive strips (52) deposited on an insulative film (layer) (40) and separated by a plurality of non-conductive regions, wherein said conductive strips (52) are in electrical communication with each other through the fuse leads (48, 50). The remaining claimed elements are also can be seen on the figures.

### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

US/1036510, 3810063, 2288428, and 5864277, disclosed electrical fuses with plural parallel fusible elements.

US/4706059, 4873506, 5775940, 5790007, 5923239, 6147586, 3358363, and 2934627, disclosed electrical fuses with plurality of fusible elements disposed on an insulative substrate.



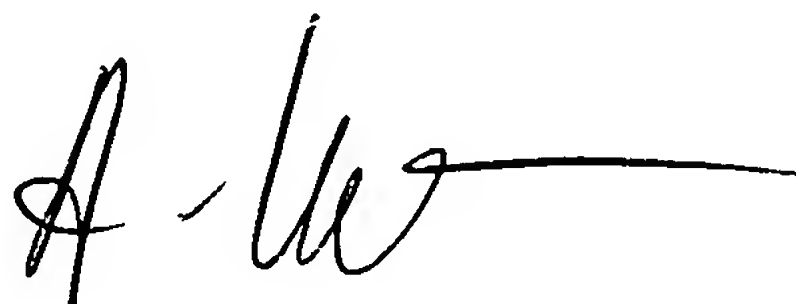
US/5726621 teach conventionality of using polysilicone for making insulative substrates of electrical fuses.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AV



Anatoly Vortman  
Primary Examiner  
Art Unit 2835